

NEW PRODUCTS

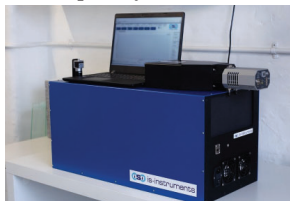
Focus on test, measurement, quantum metrology, and analytical equipment

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers. PHYSICS TODAY can assume no responsibility for their accuracy. For more information about a particular product, visit the website at the end of its description. Please send all new product submissions to ptpub@aip.org.

Andreas Mandelis

System for deep-UV Raman spectroscopy

ODIN is a deep-UV resonant Raman instrument developed by IS-Instruments and Toptica for measuring biopharmaceutical products without degrading the sample. The system combines Toptica's newly developed TopWave 229 solid-state diode laser and a spatial heterodyne spectrometer into a single instrument with an all-reflective backscatter Raman collection probe. The inclusion of a dynamic sample positioning stage mitigates sample damage caused by extended laser exposure. According to the company, the instrument acquires spectra significantly more quickly than do other existing systems, and it is stable, reliable, and easy to use. Its compact size and low cost make deep-UV resonant Raman studies accessible to facilities with limited space and budgets. The company claims the technique could measure substances that other spectroscopic methods cannot. **Toptica Photonics Inc**, 5847 County Rd 41, Farmington, NY 14425, www.toptica.com



Spectroradiometer for fieldwork

Spectral Evolution has launched a high-sensitivity spectroradiometer, which operates in the UV, visible, and near-IR ranges, specifically for remote-sensing applications. According to the company, the NaturaSpec spectroradiometer brings the high spectral resolution of laboratory instruments to field measurements. It lets users collect data *in situ* without sample preparation and offers the best signal-to-noise performance in field instruments currently on the market. To ensure robustness and provide excellent stability, solid-state photodiode-array detectors with no moving optical parts come standard on a rugged chassis. Thermoelectrically cooled photodiode array detectors deliver high sensitivity and spectral resolution in the IR range. The company's DARWin SP data-acquisition software optimizes spectral scans. Dark-current correction is automatically applied to every scan, and each detector is independently exposed to the signal at the optimum integration time. No tedious manual optimization is needed to ensure reliably repeatable data. **Spectral Evolution**, 26 Parkridge Rd, Ste 104, Haverhill, MA 01835, <https://spectralevolution.com>

moglabs

Fizeau Wavemeter
FZW600



Version 0.1.2, Rev 2 hardware

Self-contained Fizeau wavemeter

A compact wavelength-measurement device based on Fizeau interferometers, the FZW from MOGLabs provides reliably accurate measurements over a wide range of wavelengths (370–1120 nm) without recalibration. Its small, self-contained form factor makes the FZW easy to use for analysis: The measurement and calculation are performed on the device and the result displayed on the screen in less than 2 s, with no need for a host computer. Two-, four-, and eight-channel fiber switchers use MEMS technology for essentially infinite lifetime and rapid switching. Each channel has its own 16-bit digital-to-analog converter for laser frequency control. A

built-in proportional-integral-derivative controller provides for laser-frequency stabilization. **MOGLabs USA LLC**, 419 14th St, Huntingdon, PA 16652, www.moglabs.com

Digital bit-error performance analysis

Keysight has extended its M8000 series, a highly integrated bit-error-ratio (BER) test solution for physical layer characterization, validation, and compliance testing. The series is suitable for users seeking insight into the performance margins of high-speed digital devices. The new M8050A tester provides application-specific integrated circuit technology to help optimize designs to instrument requirements. According to Keysight, it delivers previously unachieved signal integrity in validating next-generation chip deployments of up to 120 Gb/s for the 1.6 Tb/s (trillion bits per second) market. In combination with the M8050A, the company's Infiniium 80 GHz UXR oscilloscope can be used as an acquisition-based error analyzer to provide a comprehensive BER tester. It supports not only non-return-to-zero and pulse-amplitude modulation (PAM) 4 but also the PAM 6 or PAM 8 formats likely required in the 1.6 Tb/s environment. **Keysight Technologies Inc**, 1400 Fountaingrove Pkwy, Santa Rosa, CA 95403-1738, www.keysight.com



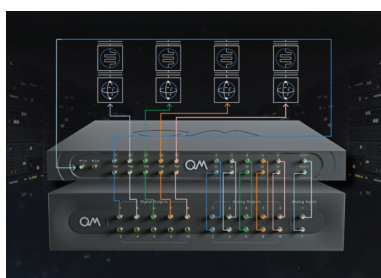
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Impedance measurements

Rohde & Schwarz (R&S) has introduced a new family of high-performance LCR meters, which measure the inductance, capacitance, and resistance of an electronic component. The R&S LCX LCR meters extend the frequency range of impedance measurements provided by the company's test equipment to cover AC components operating from 4 Hz to 10 MHz. The meters serve all established impedance

measurements plus specialized measurements for selected component types. They provide the high accuracy required in R&D and the high speed needed in production testing and quality assurance. The R&S LCX family launches with two models: The R&S LCX100 covers a frequency range from 4 Hz to 300 kHz, and the R&S LCX200 a basic frequency range from 4 Hz to 500 kHz with options to cover frequencies up to 10 MHz. On both models, up to four measurements can be selected and plotted versus time, with minimum and maximum values included in the display for at-a-glance pass-fail analysis. **Rohde & Schwarz GmbH & Co KG**, Muehlhofstrasse 15, 81671 Munich, Germany, www.rohde-schwarz.com



Frequency module for quantum computing

Quantum Machines has announced its Octave all-in-one RF up-conversion and down-conversion module. Integrated with the company's OPX Quantum Orchestration Platform, Octave enables R&D users to execute the highly complex algorithms needed to address advanced challenges in quantum computing. To benefit from the high level of quantum orchestration, many researchers must spend considerable time on RF engineering, setting up and calibrating components such as oscillators and intermediate-frequency mixers. As the system size scales, that can lead to systems that are bulky and difficult to calibrate. By continuous automatic self-calibration and in a fraction of a second, Octave

removes the need for complex engineering. The compact, rack-mountable module with built-in local oscillator sources ensures that the system can keep pace with user needs as the numbers of qubits continue to scale. **Quantum Machines**, Yigal Alon St 126, Tel Aviv-Yafo, Israel, www.quantum-machines.co

High-speed spectrometer

According to Ocean Insight, its Ocean SR2 spectrometer provides high-speed spectral acquisition and delivers a high signal-to-noise ratio (SNR) of 380:1. Its applications include laser characterization, plasma monitoring, and absorbance measurements that benefit from its high SNR. The Ocean SR2's combination of speed—integration times to 10 µs—and SNR provides application versatility. Preconfigured models are available with entrance slits in widths of 5 µm to 200 µm (full width at half maximum), which provide users with a range of optical-resolution and signal-throughput options. The Ocean SR2 spectrometer is compact, highly configurable, and versatile, and offers excellent thermal stability. The included OceanDirect cross-platform software-developers' kit with an application programming interface lets users optimize spectrometer performance and access critical data for analysis. **Ocean Insight Inc**, 8060 Bryan Dairy Rd, Largo, FL 33777, www.oceaninsight.com



Roundness metrology software

Digital Surf and Taylor Hobson have released an updated version of Metrology 4.0 software with the manufacturer's new Talyrond 500 PRO instrument for roundness metrology. The surface-analysis features of Digital Surf's Mountains platform have been integrated into the updated software, which allows both measurement and analysis to be performed on Taylor Hobson's roundness instrument series. Because users can better control the measurement process and directly create and export analysis documents, a more fluid and optimized workflow is achieved. Specific features include desktop publishing and high-quality 3D visualizations of cylinders and flatness scans. Thanks to the multi-instrument compatibility of the Metrology 4.0 software, various measurement types, such as roundness, flatness, cylindricity, surface finish, and contour, can be represented on the same document. **Digital Surf**, 16 rue Lavoisier, 25000 Besançon, France, www.digitalsurf.com

